

Title (en)
OPTOELECTRIC CONVERSION ELEMENT AND ITS MANUFACTURING METHOD, AND OPTOELECTRIC CONVERSION MODULE USING SAME

Title (de)
OPTOELEKTRONISCHES WANDLERELEMENT UND VERFAHREN ZU SEINER HERSTELLUNG UND OPTOELEKTRISCHES WANDLERMODUL DAMIT

Title (fr)
ELEMENT DE CONVERSION OPTO-ELECTRIQUE, PROCEDE POUR LE FABRIQUER ET MODULE DE CONVERSION OPTO-ELECTRIQUE L UTILISANT

Publication
EP 1870944 A4 20120104 (EN)

Application
EP 06729935 A 20060324

Priority
• JP 2006305987 W 20060324
• JP 2005087115 A 20050324

Abstract (en)
[origin: EP1870944A1] A photovoltaic conversion element includes a one conductivity-type crystalline Si semiconductor; an opposite conductivity-type semiconductor which is joined to the crystalline Si semiconductor to form a pn junction therebetween; an electrode provided on the opposite conductivity-type semiconductor; and a depletion region formed from the side of the one conductivity-type crystalline Si semiconductor to the side of the opposite conductivity-type semiconductor across the pn junction formed therebetween. The depletion region has a first depletion region located inside the crystalline Si semiconductor and under the electrode, and the first depletion region has an oxygen concentration of 1×10^{18} [atoms/cm³] or less.

IPC 8 full level
H01L 31/04 (2006.01); **H01L 31/0224** (2006.01); **H01L 31/068** (2012.01)

CPC (source: EP US)
H01L 31/022425 (2013.01 - EP US); **H01L 31/068** (2013.01 - EP US); **Y02E 10/547** (2013.01 - EP US)

Citation (search report)
• [X] EP 0573921 A2 19931215 - SEIKO INSTR INC [JP]
• [A] JP 2004214442 A 20040729 - SANYO ELECTRIC CO
• [A] US 5327007 A 19940705 - IMURA MAKOTO [JP], et al
• [A] US 2003116187 A1 20030626 - HUSHER JOHN DURBIN [US]
• See references of WO 2006101200A1

Cited by
US8198115B2; CN102077358A; EP2136407A3; EP2136408A3; EP3855510A4; US11810993B2

Designated contracting state (EPC)
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DOCDB simple family (application)
EP 06729935 A 20060324; JP 2006305987 W 20060324; JP 2007509349 A 20060324; US 90959306 A 20060324